

**REMARKS**

Claims 1-22 are pending in the present application. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action of July 19, 2005, claims 1-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,507,865 (hereinafter "Yoshida") in view of U.S. Patent No. 5,106,416 (hereinafter "Moffatt").

**Rejections Under 35 U.S.C. § 103**

Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. Further, the Examiner has to establish some motivation or suggestion to combine and/or modify the references, where the motivation must arise from the references themselves, or the knowledge generally available to one of ordinary skill in the art. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

The Examiner has rejected claims 1-22 as being obvious over Yoshida in view of Moffatt. The Yoshida reference is drawn towards an aqueous ink composition that when used in recording, gives a high-quality recorded image having improved image density while preventing the bronzing phenomenon. The aqueous ink compositions taught in Yoshida can include a water-soluble dye, water, and a basic amino acid. Additionally, Yoshida discloses without giving any examples, that "the present invention may further contain, if desired or necessary, other additives such as a wetting agent, a surfactant, a pH regulator, an antiseptic, a mildew-proofing agent, an evaporation accelerator, and a chelating agent." Notably, the Examiner has stated that Yoshida does not specifically teach an "amphoteric" surfactant. Additionally, it should be pointed out that Yoshida only mentions these additives as possible

ingredients that can be incorporated into the composition without giving specific compound examples, amounts of any of these ingredients, or reasons for their inclusion. Basically, the additives are included in the specification as a "catch-all" for other ingredients that are commonly used in inks.

In contrast, Moffatt teaches ink-jet inks which utilize zwitterionic surfactants to improve the color bleeding of the ink-jet ink. The inks taught in Moffatt can comprise a vehicle, a cationic dye, high boiling point solvent, and one or two amphiphiles surfactants at concentrations above their critical micelle concentration (cmc). Above the cmc, micelles form, which attract the dye molecule and thus control the color bleed. One type of surfactant that can be used includes amphoteric surfactants.

The present invention however, is drawn to black ink-jet inks and methods of printing which include using these black ink-jet inks. The black ink-jet ink taught by the present invention can include i) water, ii) a cosolvent; ii) a solubilized naturally occurring amino acid, and iii) an amphoteric surfactant. Notably, neither Yoshida nor Moffatt teach all of the ink-jet ink elements in one teaching. However, the Examiner has rejected the present invention claims stating that it would have been obvious to one having ordinary skill in the art to modify the aqueous ink-jet ink of Yoshida by adding the zwitterionic surfactant of Moffatt in order to improve the color bleed of the aqueous ink composition. Applicants respectfully disagree with the Examiner.

Applicants submit that there is no motivation to combine these references and that combining the Yoshida and Moffatt references together is improper since both have different objectives and seek to resolve different problems with ink-jet ink compositions. Specifically, Moffatt teaches adding amphoteric surfactants to alleviate bleed between inks. Yoshida, however, uses amino acids for a completely different purpose, namely to improve water resistance, provide satisfactory image density, and prevent bronzing. Thus, there is no motivation within the references themselves that would lead one skilled in the art to combine the use of amphoteric surfactants and amino acids to obtain an ink composition having improved optical density properties.

Further, Applicants teach in the specification of the application that it is the combination of the amino acid additive and the amphoteric surfactant that provides the improved optical density by reducing or preventing ink penetration into the media. In fact, the Applicant has acknowledged that anionic surfactants and non-amphoteric

surfactants are often used to control bleed, but because they cause paper penetration, optical density can be reduced. Yoshida does not teach of the value of this combination, nor does it even suggest the use of the very specific type of surfactants taught by the Applicant over the use of other types of surfactants.

Additionally, Yoshida only mentions the addition “a surfactant” to the inks as a generic statement of an additional ingredient, yet it does not specifically mention amphoteric surfactants. Unless an amphoteric surfactant is selected for use, increased penetration occurs and negatively impacts optical density of the ink. Thus, the single mention of adding “a surfactant” in Yoshida is too general of a teaching to lead one skilled in the art to claimed invention. Further, this general teaching does not provide sufficient motivation to seek out a reference that uses the particular type of surfactant for the particular purpose set forth in the Moffatt, particularly when the purpose of Moffatt is to prevent bleed which is not addressed in Yoshida as being a problem.

The Applicants further submit that there is no motivation to combine Yoshida in view of Moffatt to arrive at the presently claimed invention since the image density resulting from the ink-jet ink compositions in Yoshida is satisfactory. Specifically, Yoshida teaches that an aqueous ink comprising a water-soluble dye, water, and the addition of a basic amino acid improve the optical density of ink compositions. The examples shown in Yoshida illustrate the satisfactory image density properties of the ink compositions. For example, column 6, lines 5 – 52, recites the conditions and results of each Example conducted by Yoshida. Table 1 illustrates an improved optical density (O.D.) with the addition of L-lysine and L-arginine amino acids to the ink-jet ink composition. Specifically, Yoshida refers to the optical density and water resistance as being satisfactory. Therefore, if the optical density is satisfactory as taught by Yoshida, then why would one skilled in the art be motivated to modify the ink-jet ink composition of Yoshida to improve optical density. For these reasons, withdrawal of the rejections under this section is respectfully requested.

As a further note, the Applicant has added new claims 23-26, which set forth specific improvement in optical density and bleed control compared to inks that do not include all of the ingredients set forth in the independent claims. These claims are fully supported by the Examples, and in fact, claims 23 and 25 were directly pulled from a specific embodiment of Examples 1 and 2, and claims 24 and 26 were directly pulled from a specific embodiment of Examples 3 and 4. No new matter is added by

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these claims which are merely drawn to a more detailed embodiment. Consideration of these new claims is respectfully requested.

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### CONCLUSION

In view of the foregoing, Applicants believe that claims 1-26 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 19<sup>th</sup> day of October, 2005.

Respectfully submitted,



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